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REMARKS

I. DRAWINGS

The Examiner objects to the drawings under 37 C.F.R. § 1.83(a) as allegedly failing to show deforming of the interconnect substrate. Enclosed herein is a corrected drawing for Figure 1 which shows a broken line depiction of an exemplary embodiment of a deformed interconnect substrate 101. With respect to a mechanism which applies pressing force, it is respectfully submitted that such a feature can be derived from a pressure differential so that the pressing force itself need not be shown. That is, force is an invisible phenomenon (e.g., gravity) rather than a visible structural element. In this regard, claims 6 and 12 have been amended to define the pressing force as the "difference between the atmospheric pressure and the pressure of said sealed space after pressure reduction."

Based on the foregoing, it is submitted that the Figures show every feature specified in the claims. Accordingly, it is respectfully requested that the objection to the drawings be withdrawn.

II. CLAIMS 1-12 HAVE WRITTEN DESCRIPTION

Claims 1-12 stand rejected under 35 U.S.C. § 112, first paragraph (written description). This rejection is respectfully traversed for the following reasons.

It is respectfully submitted that the Examiner's allegations regarding deformation of the interconnect substrate is obviated in view of the corrected drawing filed herewith.

The Examiner's allegation with respect to elastic sheet 103 deforming before the interconnect 101 is not understood. In particular, whether or not the alleged deformation of elastic sheet 103 before interconnect 101 occurs or whether or not it may cause problems

similar to JP 11-135582 as referenced by the Examiner is irrelevant and completely unrelated to whether the claims of the present invention have ***written description***. If the Examiner maintains this rejection, it is respectfully requested that the Examiner identify precisely which claim language allegedly does not have written description. Moreover, it is respectfully submitted that the Examiner's allegations are ***technically*** inaccurate. As shown in Figure 1, elastic sheet 103 includes a through-hole (unnumbered, see portion of sheet 103 positioned between protrusion 106 and seal 112) so that the spaces on opposing sides of the sheet 103 are fluidly coupled, which can prevent a pressure differential across sheet 103. Accordingly, sheet 103 will not deform in the manner alleged by the Examiner.

The Examiner further alleges that "an elastic sheet held on said interconnect substrate at a periphery thereof" is not supported by the specification based on the allegation that the "elastic sheet is ***also*** held at rubber sheet 110" (emphasis added). It is respectfully submitted that the Examiner has improperly interpreted the referenced limitation of claims 1 and 7 as requiring the elastic sheet to be held ***only*** at the periphery of the substrate. However, no such limitation exists. Claims 1 and 7 broadly embody an elastic sheet which can be held on the substrate at any one or more locations of the substrate so long as at least one of the locations includes the "periphery thereof". It should be noted that claims 1 and 7 use the ***open-ended*** "comprising/including" transitional phrase, which allows the claims to embody features not recited therein. There is no requirement that all disclosed features be recited in the claims.

The Examiner's allegation with respect to claims 5 and 11 is not understood. In particular, whether or not the dummy isolated pattern is used is irrelevant to whether the claims of the present invention have ***written description***. If the Examiner maintains this

rejection, it is respectfully requested that the Examiner identify precisely which claim language allegedly does not have written description. Moreover, the specification clearly describes an exemplary dummy isolated pattern 107 which can be integrated with the dummy bump 106 (*see* broken line in Figure 1), which can be used to, for example, help prevent deforming.

Based on all the foregoing, it is submitted that claims 1-12 have written description. Accordingly, it is respectfully requested that the rejection of claims 1-12 under 35 U.S.C. § 112, first paragraph, be withdrawn.

III. CLAIMS 1-12 ARE DEFINITE

Claims 1-12 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed for the following reasons.

With respect to the allegations regarding claim 1, it is respectfully submitted that the claimed system does not positively recite reducing pressure (nor a mechanism therefor) but instead references a reduced pressure so as to help describe the intended functionality of the protrusions. Accordingly, claim 1 need not recite the "who/what" used to reduce the pressure. Further, with respect to the claim 7, it is respectfully submitted that the Examiner's assertion is directed to claim ***scope*** rather than claim ***definiteness***. As set forth in MPEP § 2173.04, claim breadth is not indefiniteness. Accordingly, in response to Examiner's question, any "who/what" can be used to perform the claimed step of "reducing an internal pressure ... ." Applicants' specification describes, for example, one exemplary embodiment for reducing pressure using a vacuum pump. However, the present invention is not limited to such a pressure reducing mechanism.

The allegations with respect to claims 6 and 12 are traversed for the same reasons discussed above with respect to claim 7, but are nonetheless rendered moot in view of the amendments thereto, which defines the "who/what" for applying the pressing force as including "the difference between the atmospheric pressure and the pressure of said sealed space after pressure reduction."

Based on all the foregoing, it is submitted that claims 1-12 are definite. Accordingly, it is respectfully requested that the rejection of claims 1-12 under 35 U.S.C. § 112, second paragraph, be withdrawn.

IV. CLAIMS 1-12 ARE NOT ANTICIPATED BY NAKATA

Claims 1-12 stand rejected under 35 U.S.C. § 102 as being anticipated by Nakata et al. '658 ("Nakata"). Claims 1 and 7 are independent. This rejection is respectfully traversed for the following reasons.

Each of claims 1 and 7 recite in pertinent part, "external electrodes and said interconnect layers are not electrically connected to each other via each of said plurality of protrusions." According to one exemplary embodiment of the present invention, as shown in Fig. 1, when the internal pressure of the sealed space 118, which is formed by the interconnect substrate 101, the ring-shaped sealing member 112 and the wafer tray 111, is being reduced, the protrusions composed of integrated dummy bumps 106 and dummy isolated patterns 107 can be in contact with the semiconductor wafer 1 so as to enable resisting the force that brings the interconnect substrate and the wafer tray together. Hence, the deforming of the periphery of the interconnect substrate towards the wafer tray can be prevented.

In other words, the protrusions can resist the force that brings the interconnect substrate and the wafer tray together, and the external electrodes and the interconnect layers are not electrically connected to each other via each of the plurality of protrusions. Accordingly, in the periphery of a semiconductor wafer in which an element pattern of the semiconductor wafer is not formed, and in the inner region of the semiconductor wafer, the protrusions can be provided in a relatively free region that can be apart from the external electrode used during testing.

In direct contrast, Nakata discloses that the alleged external electrodes and interconnect layers ***are*** electrically connected to each other via each of the plurality of protrusions. According to Nakata, all of the integrated bumps 17 and isolated patterns 19 are connected to the external electrodes 16 of the semiconductor wafer 10, and the isolated patterns 19 are electrically connected to the interconnect layer 20. In other words, the external electrodes and the interconnect layers are electrically connected to each other via the bumps (protrusions) 17.

As anticipation under 35 U.S.C. § 102 requires that each and every element of the claim be disclosed in a single prior art reference, *Akzo N.V. v. U.S. Int'l Trade Commission*, 808 F.2d 1471 (Fed. Cir. 1986), based on the forgoing, it is submitted that Nakata does not anticipate claims 1 and 7, nor any claim dependent thereon.

New claims 13 and 14 are submitted to be allowable for at least reasons similar to those discussed above with respect to claims 1 and 7.

Based on all the foregoing, it is submitted that claims 1-14 are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under 35 U.S.C. § 102 be withdrawn.

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CONCLUSION

Having fully and completely responded to the Office Action, Applicants submit that all of the claims are now in condition for allowance, an indication of which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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